

ADDENDUM NO. 2

**BRANDYWINE SCHOOL DISTRICT
CLAYMONT ELEMENTARY SCHOOL RENOVATION
BID PAC B3, Theater Seating – Screen Wall
3401 Green Street, Claymont, DE 19703**

**THE WHITING-TURNER CONTRACTING COMPANY
CONSTRUCTION MANAGER
131 Continental Drive – Suite 404
Newark, DE 19713
302-292-0676**

BIDS DUE: October 29th, 2020 at 2:00 PM

**LOCATION: Claymont Elementary School, Gymnasium
3401 Green Street
Claymont, DE 19703**

NOTICE TO ALL BIDDERS

1.0 GENERAL NOTES:

- 1.1 Bidders are hereby notified that this Addendum shall be and hereby becomes part of their Contract Documents, and shall be attached to the Project Manual for this project. All bidders shall acknowledge this addendum on the Bid Form.
- 1.2 The following items are intended to revise and clarify the Drawings and Project Manual, and shall be included by the Bidder in their proposal.
- 1.3 Bidders shall verify that their Sub-bidders are in full receipt of the information contained herein.
- 1.4 Deadline for questions and substitutions has passed.
- 1.5 A mandatory pre-bid meeting was held on October 8th, 2020 at Claymont Elementary School ES, Gymnasium. Only bidder that attend the prebid will be allowed to bid.

2.0 CHANGES TO THE PROJECT MANUAL and DRAWINGS

- 2.1 SECTION 01 12 00 – 12B Auditorium Seating Scope
DELETE Section 01 12 00 in its entirety and REPLACE with Section 01 12 00 Auditorium Seating Scope attached to this Addendum. Line item #6 was removed.

CLAYMONT ELEMENTARY SCHOOL – RENOVATIONS

Addendum #2 – October 26, 2020

2.2 SECTION 12 61 00 – FIXED AUDIENCE SEATING

DELETE Section 12 61 00 in its entirety and REPLACE with Section 12 61 00 – FIXED AUDIENCE SEATING attached to this Addendum.

3.0 ATTACHMENTS

3.1.1 ABHA Addendum #2 dated 10/26/2020

3.1.2 SECTION 01 12 00-12B Auditorium Seating Scope of work

3.1.3 SECTION 12 61 00 Fixed Audience Seating Specification Section

END OF ADDENDUM NO. 02

ABHA Architects - Project No.1630

ADDENDUM ISSUED BY

ABHA Architects, Inc.
1621 N. Lincoln Street
Wilmington, Delaware 19806

NOTICE: Attach this Addendum to the Project Manual for this project. It modifies and becomes a part of the Contract documents. Work or materials not specifically mentioned herein are to be as described in the main body of the Specifications and as shown on the Drawings.

Acknowledge receipt of the Addendum in the space provided on the Bid Form. This Addendum is being transmitted to all pre-qualified contractors who have received Contract Documents. If there are any problems with legibility or content, please contact ABHA Architects, Inc. (302) 658-6426.

LIST OF ATTACHMENTS:SPECIFICATIONS

SPECIFICATION SECTION 12 61 00 – FIXED AUDIENCE SEATING (8 pgs.)

GENERAL INFORMATION:

(none)

QUESTIONS AND ANSWERS:

Question 1: Can you delete the LEED requirement?

Answer 1: Yes

Question 2: Can you Add the Absecon Mills, Pattern: Sherpa or Shire fabric color? We could submit actual approved color samples for the record if required.

Answer 2: Yes. Actual submittals and samples will be required.

Question 3: 1.05.E. What does this refer to? You show 5% spare back and seat covers in the seating spec. Can this be deleted?

Answer 3: 1.05E language will be deleted. Items in 2.02J must be provided.

ABHA Architects - Project No.1630

Question 4: Paragraphs 1.06.B,C,D. Can these be deleted? It will take up time researching these items and to make necessary submittals substantiating.

Answer 4: B – No. If your chairs/upholstery do not meet NFPA 261 they MUST meet NFPA 260 Class I requirements per the life safety code. I will add that line to this section of the specification.

C – Yes, this will be deleted.

D – Yes, this will be deleted.

Question 5: Can you delete paragraph 2.03.K.3?

Answer 5: No.

Question 6: Can you delete paragraph 2.04? This is all covered in section 2.02.

Answer 6: Yes.

Question 7: Does the ADA companion seat need to be a standalone seat or can it be a removal theater seat mounted on a base.

Answer 7: On Sheet A-111.3, the (9) nine chairs labeled as “movable seating”, adjacent to ada spaces, are not in the auditorium seating scope of work. They will be provided by others..

Question 8: Do we need to get two separate bonds for these projects?

Answer 8: Yes, you will need a bid bond for exterior panels and one for Auditorium Seating. If you are bidding both packages, make sure your bids are in 2 separate sealed envelopes.

Question 9: General Scope item 7 states the noisy work must take place during off ours. Seat installation will require hammer drilling. Can this take place during normal hours?

Answer 9: Hammer Drilling will be allowed during normal hours.

Question 10: Are there Liquidated Damages on this project?

Answer 10: No.

Question 10: What is the schedule for this project?

Answer 10: Contractors should expect an award mid November 2020, Shop Drawings are expected mid- December. Materials should be ordered 1 week after approved shops. Once materials are received, work should begin within 2 weeks.

Question 11: Per the submitted substitution request, Can Hussey be added an approved manufacture?

Answer 11: No.

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Question 12: Spec section 074213 Metal Wall Panels, paragraph 2.01.B lists two alternative manufacturers which cannot match the basis of design product by Centria. We are therefore proposing to use a match for the basis of design product, "Element" panels manufactured by IMETCO - Innovative Metals Company. Per the submitted substitution request, Can "Element" panels manufactured by IMETCO be added an approved manufacture?

Answer 12: This product would be acceptable. The panel material thickness is to be .060 inches or better. Panels must also meet the deflection requirements in the spec. Metal panels will be a custom color selected by the architect.

Question 13: Per the submitted substitution request and sample, can KI's, Lancaster seat and not the 'Concerto' seat be listed as the equal and be added an approved manufacture?

Answer 13: No

CHANGES TO PROJECT MANUAL:

SECTION 12 61 00 – FIXED AUDIENCE SEATING

DELETE Section 12 61 00 in its entirety and REPLACE with Section 12 61 00 – FIXED AUDIENCE SEATING attached to this Addendum.

END OF ADDENDUM #1

SECTION 011200-12B – SPECIFIC SCOPE OF WORK – AUDITORIUM & GYM SEATING

SPECIFIC SCOPE – AUDITORIUM SEATING:

- A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
- B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by ABHA Architects, dated September 14, 2020:

Volume 1: Divisions 00 – 01

Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

Section	Description	Responsibility
Division 00	Bidding and Contract Requirements	In Its Entirety
Division 01	General Requirements	In Its Entirety
12 61 00	Fixed Audience Seating	In Its Entirety

NARRATIVE:

- 1. Include the cost of performance and payment bonds in the base bid.
- 2. Provide field measurements prior to shop drawings.
- 3. Supply and install seating, fasteners, numbering, LEED Product data, warranties, shop drawings.
- 4. Conduct field verification of existing conditions.
- 5. Furnish and install Auditorium Seating as shown on A-111.3.
- 6. ~~Furnish and install Movable Seating as shown on A-111.3.~~ Movable Seating as shown on A-111.3 are provided by others *Addendum 2*
- 7. Removal of existing seating has been completed by others.

ALLOWANCES

Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

- 1. None

ALTERNATES

Provide all work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

1. Alternate No. 1: NOT USED
2. Alternate No. 2: NOT USED
3. Alternate No. 3: NOT USED
4. Alternate No. 4: NOT USED
5. Alternate No. 5: NOT USED
6. Alternate No. 6: NOT USED
7. Alternate No. 7: NOT USED
8. Alternate No. 8: NOT USED
9. Alternate No. 9: NOT USED
10. Alternate No. 10: NOT USED
11. Alternate No. 11: NOT USED
12. Alternate No. 12: NOT USED
13. Alternate No. 13: NOT USED
14. Alternate No. 14: NOT USED
15. Alternate No. 15: NOT USED
16. Alternate No. 16: NOT USED
17. Alternate No. 17: NOT USED
18. Alternate No. 18: NOT USED
19. Alternate No. 19: NOT USED
20. Alternate No. 20: NOT USED
21. Alternate No. 21: NOT USED
22. Alternate No. 22: NOT USED
23. Alternate No. 23: NOT USED
24. Alternate No. 24: NOT USED
25. Alternate No. 25: NOT USED
26. Alternate No. 26: South Screen Wall – Provide Metal in lieu of HPL
27. Alternate No. 27: Gym exterior wall panels
28. Alternate No. 28: Entry vestibule wall panels

UNIT PRICES

Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.

SECTION 12 61 00
FIXED AUDIENCE SEATING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fixed, upholstered theater chairs.
- B. Support standards.
- C. Chair accessories.

1.02 RELATED REQUIREMENTS

- A. Section 01 74 19 – Construction Waste Management.
- B. Section 01 81 13 – Sustainable Design Requirements.
- C. Section 01 81 19 – Indoor Air Quality Requirements.

1.03 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- C. ASTM D3597 - Standard Specification for Woven Upholstery Fabrics--Plain, Tufted, or Flocked; 2002 (Reapproved 2013).
- D. ASTM E1352 - Standard Test Method for Cigarette Ignition Resistance of Mock-Up Upholstered Furniture Assemblies; 2016.
- E. ASTM E1537 - Standard Test Method for Fire Testing of Upholstered Furniture; 2016.
- F. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood; 2016.
- G. NFPA 261 - Standard Method of Test for Determining Resistance of Mock-Up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes; National Fire Protection Association; 2013.

1.04 ~~LEED REQUIREMENTS~~

- A. ~~LEED Focus Materials (LFMs) For This Section~~
 - 1. ~~Targeted products containing Recycled Content (MRe4)~~
 - 2. ~~Targeted products containing Regional Material (MRe5)~~

1.05 SUBMITTALS

- A. See Section 01 31 00 - Project Management and Coordination, for submittal procedures.
- B. Product Data: Manufacturer's printed data sheets for products specified.
- C. Shop Drawings: Fabrication and installation details, chair layouts and dimensions and seat numbering scheme.
 - 1. Field Measurements: Verify seating layout by field measurements and record field dimensions on shop drawings.
- D. Selection Samples: Manufacturer's color charts and swatches for fabric upholstery, indicating full range of materials, colors, and patterns available.
- E. ~~Maintenance Materials:~~
 - 1. ~~See Section 01 60 00—Product Requirements, for additional provisions.~~

- F. ~~LEED Product and Material Data Summary Form: For all installed products and materials of this Section, complete the "LEED Product and Material Data Summary Form" (attached to end of Section 01 81 13 - Sustainable Design Requirements)~~
1. ~~Product Material Cost: Provide the cost for material, or an assembled product, including taxes and delivery but excluding any cost for labor and equipment required for installation after the material is delivered to the site.~~
 2. ~~Product Data for Credit MRe4, Recycled Content: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content. Include statement indicating cost for each product having recycled content.~~
 3. ~~Product Data for Credit MRe5, Regional Material: For products having regional materials, documentation indicating location of raw material extraction, harvest or recovery, as well as, manufacture (location of final assembly) within 500 miles of project site. Include statement indicating cost for each material or component of the assembled product.~~

1.06 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer certified in writing by the seating manufacturer to be qualified for installation of specified seating.
- B. Fire Retardance of Upholstered Seating: Self-extinguishing when mock-up is exposed to smoldering cigarettes in accordance with ASTM E1352 or NFPA 261 or **NFPA 260 Class I requirements.**
- C. ~~Fire Retardance of Fixed Theater Seating: Maximum instantaneous net peak rate of heat release of 250 kW or less, and total energy released during first 5 minutes of 40 MJ or less, when tested in accordance with ASTM E1537.~~
- D. ~~Sustainability and LEED Standards Certification:~~
 1. ~~Regional manufactured products with percentage by weight.~~
 2. ~~Recycled content calculated as 1/2 preconsumer + postconsumer.~~

1.07 MANUFACTURER QUALIFICATIONS:

- A. Manufacturer shall have been in business for a minimum of 15 years under same ownership with at least 15 years of experience in manufacturing auditorium type seating similar to specifications.
- B. Approved Manufacturer shall furnish list of at least 5 similar school projects with chairs installed for a minimum of 5 years.
- C. Permanent arrangement of fixed audience seating as shown on seating layout drawings.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver seats to project site in unopened containers clearly labeled with manufacturer's name and identification of contents.
- B. Store seating units in dry and clean location until needed for installation. During installation, handle in a manner that will prevent marring and soiling of finished surfaces.

1.09 PROJECT CONDITIONS

- A. Field Measurements:
 1. Take field measurements to verify or supplement dimensions indicated on contract drawings prior to manufacturing.

1.10 WARRANTY

- A. Provide a manufacturer's warranty covering the material and workmanship for the specified warranty period from date of final acceptance.
- B. Warranty Periods:
 - 1. Structural Components: five years.
 - 2. Operating Mechanisms: five years.
 - 3. Plastic, Wood and Painted Components: five years.
 - 4. Upholstery Fabric: one year.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Irwin Seating Company; www.irwinseating.com
 - 1. Product: 90.12.86.4 Citation
 - 2. Aisle Panel Laminate: W8371T Grand Island Maple
 - 3. Armrest: No. 17 India Teak on Maple
 - 4. Plastic/Powdercoat: Cadet Grey (CDT)
 - 5. **Fabric/Pattern: Abesecon Mills; Shire Grey Lilac**
- B. Other Acceptable Manufacturers: The listing of a manufacturer as an acceptable equivalent does not imply automatic approval. It remains the responsibility of the Bidder to ensure that all proposed fixed audience seating meets or exceeds specification criteria listed herein. This information must be presented in manufacturers detailed specification.
 - 1. Theatre Solutions, Inc; [Lyric]: www.theatresolutions.net
 - 2. KI Seating; Concerto
 - 3. DuCharme, Comfort
 - 4. Substitutions: Substitutions must be submitted for approval 10 days prior to bid due date.

2.02 FIXED THEATER SEATING:

- A. Chair support columns shall be a formed 14 gauge (.0747") steel tube with an integral back wing plate. Column shall exhibit a 10° rearward incline to help conceal back attachment hardware. Brackets for seat attachment shall be 7 gauge (.1875") steel for superior strength, formed with an integral support buttress. Floor attachment foot shall be formed from 12 gauge (.105) steel to 7-1/2" x 2-5/8" in size. All steel components shall be robotic welded for precise assembly and exceptional integrity. Foot-to-column welds are to be concealed on the inside of the foot for a clean appearance. The standard shall be fabricated to be compatible with the floor incline, and to maintain proper seat and back height and angle.
- B. Aisle end panels shall be No. 86 Keystone - shape, constructed of medium density fiberboard (MDF) and surfaced on outer side with decorative plastic laminate specified and a lacquered edge to compliment the dominant color of the laminate. Panels shall be provided with a seat bracket recess for precise location and support of the panel. Panel is secured to a 14 gauge formed steel bracket bolted to the top of the support column and directly to the support column with the use of a spacer. Panel bracket assembly is concealed behind a steel shroud attached with a tamper resistant screw.
- C. Armrests: Center & Aisle armrests to be solid maple hardwood:

1. Center standards shall be provided with a glass-filled polypropylene armrest support structure capable of surpassing a 200 lb. vertical static load test applied 3" from the front edge of the armrest. Armrest support shall be attached to the support column with an integral ribbed post that binds into the steel support column and locked in place with a concealed security screw. Support structure is capped with a flat solid maple hardwood armrest attached with concealed hardware.
 2. Aisle end armrests to be flat solid maple hardwood attached to the 14 gauge aisle panel bracket with concealed hardware.
- D. Backs shall have flat top surface with radius corners, padded and upholstered on their face, with a one-piece injection molded polymer rear panel. The foundation of the back component shall be provided by a 7/16" thick, 5-ply hardwood inner panel that shall also serve as the upholstery substrate. The face of the back shall be upholstered over a 2" thick polyurethane foam pad. The polyfoam pad shall be securely cemented to the plywood inner panel and upholstered with a 1-piece cover securely fastened to the hardwood inner panel by means of upholstery staples to facilitate ease of re-upholstering. The rear designer panel shall be injection molded HDPE plastic, high impact-resistant, with textured outer surface, formed to enclose the edges of the inner upholstery panel at the top and both sides of the back, and shall be not less than 25" in length, extending down to the rear of the seat. There shall be no exposed screws above the armrests. Wings used for the attachment of the complete back assembly to the standards shall be not less than 14 gauge (.0747") steel. Wings shall be firmly secured to the inner panel through the use of threaded t-nuts fastened to the inner panel. Assembled chair shall have a nominal back height of 34". The back assembly shall be certified through routine ISO testing to withstand a 250 lb. static load test applied approximately 16" above the seat assembly and a 100,000 cycle 40 lb. swing impact test. Three (3) polymer molds shall be utilized for production of 19" thru 24" back sizes: 19" mold for 19" & 20" backs, 21" mold for 21" & 22" backs, 23" mold for 23" & 24" backs. Polypropylene outer back not acceptable. Excessive lumbar foam not acceptable. Minimum back height is 34"; less not acceptable
- E. Ergonomic upholstered self-lifting seat:
1. Seats shall be upholstered on their face with ergonomic mold cushions supported by a structural, injection molded polypropylene foundation, and shall be automatically self-lifting to a 3/4 safety fold position when unoccupied. Seats shall be ISO 9001 certified through routine testing during manufacturing to pass seat cycle oscillation, ASTM Designation F851-87 Test Method for Self-Rising Seat Mechanism, and 600 lb. static load to front of seat. Seats only meeting 600 lb. static load evenly distributed not acceptable.
 2. The base structure for the cushion assembly shall be an ergonomic contoured, rigid polypropylene panel covered with a 3" thick molded polyurethane foam pad. Cushion assembly is upholstered with a carefully tailored fabric cover secured around the perimeter of the polypropylene panel by means of a drawstring and staples and securely locked to the seat foundation, preventing unauthorized removal; but facilitating convenient access by trained maintenance personnel.
 3. Seat foundation shall be 25% glass-filled, injection molded polypropylene, strengthened by deep internal ribs and gussets, completely enclosing the self-lifting hinge mechanism, and providing an attractive, decorative bottom surface for the seat. Bolted attachment of the seat component to the chair structure shall be concealed by a color-coordinated plastic cap to present a finished, refined appearance. Bottom decorative surface shall be textured

matching other plastic components in color. Seat foundation that is not glass-filled is not acceptable.

4. When unoccupied, the seat shall automatically rise to a 3/4 safety-fold position, and upon a slight rearward pressure, shall achieve full-fold, allowing the patron additional passing room. The seat shall rotate on two, molded, structural, glass-filled nylon hinge rods in internally molded channels with integral downstops for exceptional strength. Seat-lift shall be accomplished by compression springs and lubricated plastic cams, providing quiet gentle seat uplift. Downstops and upstops shall be non-metallic, eliminating plangent
- F. Chair width shall vary to accommodate row lengths.
- G. Back height and pitch shall be fixed as shown on seating layout drawings.
- H. Row-lettering and chair-numbering shall be provided for identification of all chairs as shown on approved seating layout drawings. Number plates shall be 5/8" x 1-5/8" aluminum with a clear finish and black sans serif numerals. The seat pans shall be recessed at the center of the front edge for the number plates, and attached by two (2) pop rivets. Letter plates shall be 5/8" x 1-5/8" aluminum with clear finish and black sans serif numerals attached in recess of aisle standard armrest by two (2) escutcheon pins. Attaching hardware shall have a finish compatible to plates. Stick on acrylic type number & letters not acceptable.
- I. Accessible Seating:
 1. Shall be designated on the seating layout drawings and designed to allow an individual to transfer from a wheelchair to the theatre chair. The aisle standard shall be equipped with an armrest capable of lifting to a position parallel with the support column, opening sideways access to the seat. Aisle standards so equipped shall be provided with a label, displaying an easily recognizable "handicapped" symbol. Decorative requirements of aisle standards are waived for the handicapped access standards.
 2. Provide chairs as designated in contract drawings on removable bases constructed of steel and powder coated to match color of other steel components. Bases to be constructed in groups of 1, 2, or 3 as designated in project drawings. Bases to be securely attached to concrete floor with reverse anchors.
- J. Extra Materials:
 1. Furnish extra materials from the same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents
 2. Replacement Seat and Back Covers: A quantity of cut and sewn seat and back upholstery covers shall be provided. Size of covers shall be pro-rated according to sizes of chairs in the seating layout. Quantity of covers to be provided shall be sufficient to re-upholster 5% of the chairs

2.03 MATERIALS

- A. Steel shall meet requirements for ASTM A 36/A 36M plates, shapes, and bars; ASTM A 513 mechanical tubing; ASTM A 1008/A 1008M cold-rolled sheet; and ASTM A 1011 hot-rolled sheet and strip.
- B. Cast Iron shall meet requirements for ASTM A 48/A 48M, Class 25, gray iron castings free of blow holes and hot checks with parting lines ground smooth.
- C. Cast Aluminum shall meet requirements for ASTM B 85 aluminum-alloy die castings.

- D. All exposed metal parts shall be powder coated with a hybrid thermosetting powder coat finish. The powder coat finish shall be applied by electrostatic means to a thickness of 2 - 5 mils, and shall provide a durable coating having a 2H Pencil hardness. Prior to powder coating, metal parts shall be treated with a three-stage non-acidic, bonderizing process for superior finish adhesion, and after coating shall be oven baked to cause proper flow of the epoxy powder to result in a smooth, durable finish. Manufacturer's standard color range shall be used. Minimum of 15 colors shall be provided by manufacturer to select from. Manufacturers not utilizing bonderizing process not acceptable.
- E. Medium-density fiberboard shall meet requirements for ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
- F. Hardwood Plywood: HPVA HP-1; face veneers for exposed surfaces Grade A hardwood veneer core, with no visible defects; concealed surface veneers of sound grade hardwood.
- G. Hardwood lumber and veneer faces shall be maple selected to be free of visible defects. Exposed wood shall be sanded smooth and stained to color selected with low-VOC water-based stain and top coat to provide with a high quality finish. Color to be chosen from manufacturer's standard offering. Minimum of 8 stain colors shall be provided by manufacturer to select from.
- H. Plastic Laminate shall meet requirements NEMA LD 3, Grade VGS for vertical surfaces and Grade HGS for horizontal surfaces. Color and pattern to be chosen from manufacturer's standard offering.
- I. Polypropylene Sheet: Molded high density plastic with minimum tensile strength of 3300 psi, integral color pigments, and textured, scuff-resistant surface finish.
- J. Polyurethane Foam: Density not less than 1.8 lb/cu ft, fire retardant, non-hardening and non-oxidizing, with high resistance to alkalis, oils, moisture, and mildew.
- K. Molded Plastics:
 - 1. Structural components shall be mar and dent resistant high density glass-filled polypropylene with UV stabilizers
 - 2. Decorative components shall be mar and dent resistant high density polyethylene (HDPE) with UV stabilizers.
 - 3. Plastic components shall be chosen from manufacturer's standard offering.
- L. **Upholstery fabric shall be 100% pre-consumer recycled polyester. Fabric shall have a weight of 12.4 oz. per lineal yard (\pm 1 oz.). Fabric shall meet specifications AATCC 16 Option 3, AATCC 107 and AATCC 8 for color fastness and withstand 250,000 double rubs per ASTM D-4157. Fabric shall meet flammability resistance outlined in California Technical Bulletin 117; NFPA 260-1989, Class 1; UFAC, class 1.**
- M. ~~Upholstery Fabric: ASTM D3597 heavy duty plain woven nylon fabric, treated to resist cigarette ignition and staining; color and pattern as selected from manufacturer's standards.~~
 - 1. ~~Fabric: Absecon Mills, Sherpa / Shire.~~

2.04 ~~UPHOLSTERED CHAIRS~~

- A. ~~Backs: Fixed type; two panel construction with fabric covering over padding and protective back panel, with installed height not less than 32 inches above finished floor.~~
 - 1. ~~Padding: Polyurethane foam not less than 1 in thick bonded to structural support.~~
 - 2. ~~Covering: Fabric bonded to padding and fastened by upholstery technique that facilitates replacement.~~

3. ~~Rear Panel: One piece injection molded high impact plastic, with scuff resistant textured surface.~~
- B. ~~Seats: Hinged type, constructed to permit reupholstering without removing seat from chair.~~
 1. ~~Steel Seat Construction: One piece sheet steel pan construction, reinforced at stress points; supporting not fewer than 16 coil springs or five non sag serpentine springs. Separate padding from springs with burlap sheeting cemented to polyurethane foam padding formed with minimum thickness of 1 3/4 in. Upholster with fabric sewn into box construction without welts and securely fastened to supporting frame to provide smooth, wrinkle free surface.~~
 - a. ~~For serpentine spring construction, provide not less than 3 in thick foam padding at front edge of seat.~~
- C. ~~Hinges: Self lubricating, noiseless steel hinges with brass alloy bearings or nylon bushings, equipped with spring mechanism that causes unoccupied seat to rise automatically to uniform 3/4 fold, with 100 percent fold when additional pressure is applied.~~
- D. ~~Arm Rests: Locate at aisles and between chairs; mount to support standard with concealed fasteners; exposed surfaces of solid hardwood lumber with smoothed edges.~~
- E. ~~End Panels: One piece panels fastened securely to aisle standards with concealed fasteners, configured as follows:~~
 1. ~~Shape: Rectangular with curved bottom edge.~~
 2. ~~Finish: Plastic laminate.~~

2.05 STANDARDS

- A. Support Standards: Sheet steel with formed edges and with welded mounting points for backs, seats, and arm rests, and welded floor anchor plates.

2.06 ACCESSORIES

2.07 FABRICATION

- A. Manufacture fabric-covered cushions with molded padding beneath fabric and with fabric covering free of welts, creases, stretch lines, and wrinkles. For each upholstered component, install pile and pattern run in a consistent direction.
- B. Fabricate floor attachment plates to conform to floor slope.

2.08 FINISHES

- A. Hardwood Plywood: Manufacturer's standard clear low-gloss finish.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates for conditions detrimental to installation of fixed theater seating. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Prior to layout and installation examine floors, risers, and other adjacent work and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the work including, but not limited to, plumb of riser faces and concrete conditions.

3.02 INSTALLATION

- A. Comply with manufacturer's installation instructions and approved shop drawings.

- B. Anchor support standards securely to substrate with at least two anchoring devices recommended by manufacturer.
- C. Install seating in locations indicated and fastened securely to substrates according to manufacturer's written installation instructions utilizing Chicago Expansion Bolts. Kwikbolt type anchors not acceptable.
- D. Use installation methods and fasteners that produce fixed audience seating assemblies with individual chairs capable of supporting a 600-lb static load applied 3" from front edge of the seat without failure or other conditions that might impair the chair's usefulness. Chairs capable of withstanding only a 600-lb. load evenly distributed, not acceptable.
- E. Install seating with chair end standards aligned from first to last row and with backs and seats varied in width and spacing to optimize sight lines.
- F. Install chairs in curved rows at a smooth radius.
- G. Install seating so moving components operate smoothly and quietly.

3.03 ADJUSTING

- A. Adjust seat mechanisms to ensure that seats in each row are aligned when unoccupied.
- B. Replace upholstery fabric damaged or soiled during installation.
- C. Adjust chair backs so that they are properly aligned with each other.
- D. Adjust self-rising seat mechanisms so seats in each row are aligned when in upright position.
- E. Verify that all components and devices are operating properly.
- F. Repair minor abrasions and imperfections in finishes with coating that matches factory-applied finish.

END OF SECTION